

Amendment and Response

Page 2 of 8

Serial No.: 10/000,057

Confirmation No.: 9505

Filed: November 1, 2001

For: ABRASION RESISTANT COATING FOR STACKS OF FIBER CEMENT SIDING

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application.

1-16. (canceled)

17. (currently amended) A method of making a fiberboard cement siding product, comprising ~~the steps of~~:

providing a fiberboard cement substrate layer;

coating a first major surface of the fiberboard cement substrate with a sealer;

coating the exposed surface of the sealer with a primer;

coating the exposed surface of the primer with a decorative coating;

coating the exposed surface of the decorative coating with a topcoat layer comprising a polyurethane dispersion; and

curing the topcoat layer to provide a mar and abrasion resistant coated fiberboard cement siding product; wherein the curing step comprises a thermal curing process that does not expose the siding to a board surface temperature in excess of 100 °C.

18. (previously presented) The method of claim 17, wherein the curing step comprises a thermal curing process that provides a board surface temperature of less than 100 °C.

19. (previously presented) The method of claim 17, wherein the fiberboard cement substrate layer has a density of at least 1 g/cm³ and comprises wood pulp, silica and cement, and the outer topcoat layer has a dry thickness of at least 8 microns.

20. (canceled)

Amendment and Response

Page 3 of 8

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21. (previously presented) The method of claim 19 wherein the outer topcoat layer has a dry thickness of at least 10 microns.

22-30. (canceled)

31. (previously presented) The method of claim 18, wherein the thermal curing process provides a board surface temperature of less than 80 °C.

32. (previously presented) The method of claim 31, wherein the thermal curing process provides a board surface temperature of less than 70 °C.

33. (previously presented) The method of claim 17, wherein the topcoat layer further comprises an abrasion resistance promoting adjuvant.

34. (previously presented) The method of claim 17, wherein the topcoat layer has a dry thickness of at least 5 microns.

35. (previously presented) The method of claim 34, wherein the topcoat layer has a dry thickness between 5 and 100 microns.

36. (previously presented) The method of claim 34, wherein the topcoat layer has a dry thickness of at least 7 microns.

37. (previously presented) The method of claim 36, wherein the topcoat layer has a dry thickness between 7 and 50 microns.

38. (previously presented) The method of claim 36, wherein the topcoat layer has a dry thickness of at least 8 microns.

Amendment and Response

Page 4 of 8

Serial No.: 10/000,057

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39. (previously presented) The method of claim 38, wherein the topcoat layer has a dry thickness between 8 and 30 microns.
40. (previously presented) The method of claim 38, wherein the topcoat layer has a dry thickness of at least 10 microns.
41. (previously presented) The method of claim 39, wherein the topcoat layer has a dry thickness between 10 and 25 microns.
42. (previously presented) The method of claim 17, wherein the polyurethane dispersion is an aliphatic isocyanate-based polyurethane dispersion.
43. (previously presented) The method of claim 17, wherein the polyurethane dispersion comprises a polyurethane having a number average molecular weight of at least 1800.
44. (previously presented) The method of claim 43, wherein the polyurethane dispersion comprises a polyurethane having a number average molecular weight of at least 5000.
45. (previously presented) The method of claim 44, wherein the polyurethane dispersion comprises a polyurethane having a number average molecular weight of at least 9000.
46. (previously presented) The method of claim 17, wherein the polyurethane dispersion comprises a polyurethane having an acid number between 6.5 and 80 mg KOH per gram solid polymer.
47. (previously presented) The method of claim 46, wherein the polyurethane dispersion comprises a polyurethane having an acid number between 9 and 50 mg KOH per gram solid polymer.

Amendment and Response

Page 5 of 8

Serial No.: 10/000,057

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48. (previously presented) The method of claim 47, wherein the polyurethane dispersion comprises a polyurethane having an acid number between 10 and 30 mg KOH per gram solid polymer.
49. (previously presented) The method of claim 17, wherein the topcoat layer has a pigment volume concentration of less than 20 percent.
50. (previously presented) The method of claim 49, wherein the topcoat layer has a pigment volume concentration of less than 15 percent.
51. (New) The method of claim 17, further comprising stacking a first coated fiberboard cement siding product against a second coated fiberboard cement siding product.
52. (New) A method of making a stack of fiberboard cement siding products, comprising:
preparing two or more coated fiberboard cement siding products, the method comprising:
 providing a fiberboard cement substrate layer;
 optionally coating a first major surface of the fiberboard cement substrate with one or more layers comprising a sealer, a primer, or both;
 coating one or more layers of a decorative coating to the outermost surface of the optionally coated fiberboard cement substrate layer;
 coating the exposed surface of the one or more layers of a decorative coating with a topcoat layer comprising a polyurethane dispersion;
 curing the topcoat layer to provide a mar and abrasion resistant coated fiberboard cement siding product; wherein the curing step comprises a thermal curing process that does not expose the siding to a board surface temperature in excess of 100 °C; and
stacking the two or more coated fiberboard cement siding products to form a stack.